

Claims 1-8 are cancelled.

9. (newly added) Method of non-invasive measuring of the temperature change of a target inside a body by transmitting an ultrasonic pulse to the target, subjecting a pulse reflected from the target to frequency analysis, and calculating the temperature change of the target therefrom, wherein a frequency spectrum of the reflected pulse is produced and the calculation of the temperature change is effected on the basis of harmonics appearing in said spectrum.

10. (newly added) The method of claim 9, wherein the calculation includes calculation of a quotient

$$\frac{A_{kn} - A_{k0}}{A_{k0}}$$

wherein  $A_{k0}$  represents the size of a frequency peak of a harmonic of number  $k$ , based on amplitude or intensity as measured at an earlier moment and  $A_{kn}$  represents the size of a frequency peak of said harmonic as measured at a later moment  $n$ .

11. (newly added) The method of claim 10, wherein the temperature change is calculated according to the relationship

$$\Delta = k * \text{quotient}$$

wherein  $k$  is a constant determined empirically.

12. (newly added) The method of claim 10, wherein the quotient is calculated for different harmonics represented by frequency peaks in said spectrum.

13. (newly added) The method of claim 10, wherein the size of the harmonic is represented by the amplitude of the frequency peak representing the harmonic in the frequency spectrum.

14. (newly added) The method of claim 10, wherein the size of the harmonic is represented by the surface defined by the frequency peak representing the harmonic in the frequency spectrum.

15. (newly added) The method of claim 14, wherein the surface extends from a noise level defined by the frequency spectrum.

16. (newly added) Apparatus for non-invasive measuring of the temperature change of a target inside a body comprising means for transmitting an ultrasonic pulse to the target, means for receiving a pulse reflected from the target, means for frequency analysis of the reflected pulse, and means for calculating the temperature change of the target therefrom, means for producing a frequency spectrum of the reflected pulse, and means for calculation of the temperature change on the basis of harmonics appearing in said spectrum.